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Passive voice in children's literature

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PASSIVE VOICE IN CHILDREN'S LITERATURE

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DEDICATION

I dedicate this thesis to my mom, Mary Fazio Altmiller, who has always encouraged me to read everything I could get my hands on and to never miss an opportunity to learn.

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PASSIVE VOICE IN CHILDREN'S LITERATURE

RUTH MARIE ALTMILLER CAPUTO

ABSTRACT

The current study explores the frequency and types of passive voice constructions found in children's literature as compared to child directed speech (CDS). Research studies indicate that children learn to understand and produce passive voice relatively late in the language acquisition process, which some researchers attribute to the scarcity of passive voice in CDS. This study expands current knowledge of passive voice input by adding another source, children's literature, because several studies have demonstrated that children's books may serve as enriched sources of input for academic language. Analyses of data indicate that the amount of passive voice and the types of passive voice found in children's literature and child directed speech are not significantly different, contradicting the idea that books contain more academic language than CDS. Further research is necessary in order to fully understand why children acquire passive voice in the late stages of language acquisition.

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Introduction:

The purpose of the current study is to explore the distribution of passive voice in children's literature as compared to child directed speech. Prior research studies have shown that passive voice is difficult for English speaking children (Bever, 1970; Borer & Wexler, 1987; Brooks & Tomasello, 1999; Budwig, 2001; Harris & Flora, 1982; Horgan, 1978; Pinker, Lebeaux, and Frost, 1987; Messenger, Branigan, and McLean, 2012). In fact, children's performance in passive voice comprehension and production tasks is variable until about nine years old, which is relatively late in the acquisition process (Turner and Rommetveit, 1967; Marchman, Bates, Burkardt, and Good, 1991). One explanation for the late acquisition of passive voice comes from the usage-based theory of language acquisition (Gordon and Chafetz, 1990; Tomasello, 2000). The usage-based theory attributes late acquisition to the lack of exposure to passive voice in child directed speech (CDS) (Gordon and Chafetz, 1990; Tomasello, Brooks, and Stern, 1998). Gordon and Chafetz (1990) demonstrated that child directed speech (CDS) contains few examples of passive voice, finding only 288 instances of passive voice constructions in a sample of 86,655 child directed utterances. According to several studies, the quantity and quality language input that children receive play an important role in language acquisition (Hart & Risley, 1995; Lieven & Tomasello, 2008; Tomasello, 2000). This then raises the question of how children acquire passive voice considering its scarcity in CDS. In order to create a full understanding of children's exposure to passive voice, all sources of language input must be considered. This study will expand upon the usage-based theory, or frequency account, of language acquisition by measuring the frequency and type of

passive voice constructions in children's literature as well as comparing it to that of CDS.

Passive voice is a type of grammatical construction in which the subject of the sentence is the experiencer or patient of the verb. Notably, the subject is not the one carrying out the verb. This study is concerned with two main types of passive constructions. The first main type of passive is a verbal passive, which Gordon and Chafetz (1990) describe as "the closest relation to their active counterparts" and "should be more significant in considering issues of generalization between active and passive forms of verbs" (pp. 232–233). The verbal passive, according to Chomskian theory, is the direct transformation of an active utterance to passive. A verbal passive consists of a form of *be* or *get* and a past tense marker (*–ed or –en)*. A verbal passive can be short, which consists of the elements previously described, or full, which also includes a preposition (typically *–by*) preceding a noun phrase, indicating the agent of the sentence. Using this classification schema, there are four possible types of verbal passives: (1) Full *be* passive, (2) Full *get* passive, (3) Short *be* passive, and (4) Short *get* passive.

The second main type of passive form considered in this study is the adjectival passive. Wasow (1977) first distinguished the adjectival and verbal passives based on their properties. The adjectival passive may act as an attributive adjective, as in "The broken glass" or it may act as a predicative adjective, as in "the glass is broken." This study is concerned only with adjectival passives that appear as a predicative adjective, as they are most similar to true verbal passives with respect to their structure. Including the adjectival passive, this study is concerned with five varieties of passive voice constructions. The complete list with examples is as follows:

(1) Full *be* passive:

The cat was chased by the dog.

(2) Full *get* passive:

The cat got chased by the dog.

(3) Short *be* passive:

The cat was chased.

(4) Short *get* passive:

The cat got chased.

(5) Adjectival passive.

The cat was scared.

One reason to look to children's literature as a possible source of passive input is that passive voice may be considered academic language, which is typically found in written language. Snow and Uccelli (2009) define academic language by the context in which it is used, which encompasses language used in schools, books, textbooks, and formal writing. Five core domains may be involved in academic language performance: interpersonal stance (i.e. how the author relates to the audience), information load (i.e. amount of content and conciseness), organization of information (i.e. order in which content is presented), lexical choices (i.e. formal vs. colloquial words and expressions), and representational congruence (i.e. choice of syntax, complex vs. simple sentences) (Snow and Uccelli, 2009). Passive voice falls under the domain of representational congruence, as it may be strategically chosen to present information in a certain way. For instance, using passive voice allows the speaker/author to stress the object of the verb

phrase, or omit the agent (also called the evasive passive). If the academic language register, including passive voice, is the language of books, it may be more common in books than in everyday speech.

According to Snow and Uccelli (2009), children must be able to comprehend and produce the academic language register in order to succeed in school. Around third grade, or ages 8–9, elementary schoolers are expected to use academic texts in order to learn new information and use academic language in assignments such as written reports. This is when the transition is made from learning how to read to using reading to learn, and children must bridge the gap between the language used at home and the language used at school. Several studies suggest that children's later success in academic language settings is correlated with the presence of academic language precursors in home language environment, including maternal input and literacy activities (Aarts, Demir, & Vallen, 2011; Aarts, Demir-Vegter, Kurvers, & Henrichs, 2016; Scheele, Leseman, Mayo, & Elbers, 2012). Scheele et al. (2012) found that home language environment was positively related to children's early use of academic language features. The authors found that children as young as 3 years old understand and produce features of academic language within narrative and instruction activities. This indicates that exposure to early features of academic language is important to the acquisition of academic language features, and future school success.

If exposure to a syntactic construction is what drives acquisition, the question that remains is how children acquire the academic use of passive voice if CDS contains few examples. Because passive voice falls under the umbrella of academic language, it is

important to consider all forms of child directed input in order to fully understand how children become linguistically competent in using passive voice. Measuring passive voice in children's literature and comparing it to that of CDS will provide a fuller picture of the range of passive voice input that children receive. A usage based account of passive acquisition is supported by Gordon and Chafetz (1990), but if passive is academic language, it may be more frequent in books. If there is more frequent in books than in CDS, this may cast doubt on the usage based theory, because children might have more passive voice exposure than previously known. If children's literature is similar to CDS in that it provides few instances of passive voice, this would support a usage-based theory. It is warranted, then, to examine the use of passive voice in the books that children first experience.

Researchers have examined features of academic language in CDS (Aarts et al., 2011; Aarts et al., 2016; Scheele, 2010; Scheele et al., 2012; Van Kleeck, Gillam, Hamilton, & McGrath, 1997), but only one study (Cameron-Faulkner & Noble, 2013) directly compares syntactic constructions in CDS and children's literature. Cameron-Faulkner and Noble (2013) examined children's picture books in order to determine if they might serve as a form of enriched language input. The authors first analyzed the types of constructions found in best-selling books for preschoolers, and compared the construction profiles of books to the construction profiles of the CDS sample in Cameron Faulkner et al. (2003). The authors coded utterance-level constructions into the following types: (1) Fragment, (2) Questions, (3) Imperatives, (4) Copulas, (5) Subject-Predicate, (6) Complex, and (7) Reported speech clause. Analysis of the construction types between

books and CDS revealed higher levels of Subject-Predicate and Complex types in books than in CDS, and fewer questions. In Cameron-Faulkner et al.'s (2003) paper, the authors found that there were few instances of canonical constructions, which correlate to the Subject-Predicate type, in CDS. Cameron-Faulkner and Noble (2013) conclude that children's books may provide children with input that facilitates the acquisition of canonical sentence types in their language. This study demonstrated that the syntactic constructions found in children's books are qualitatively different than the syntactic constructions found in CDS. Although Cameron-Faulkner and Noble (2013) did not address the idea of academic language, their Subject-Predicate and Complex construction types best fit the definition of academic language.

Exploring the distribution of syntactic constructions in both CDS and book modalities is therefore important in understanding the underpinnings of later success in academic language settings. Because passive voice, as a feature of academic language, may be more frequent in books, it is important to examine the use of passive voice in children's early literacy experiences. The current study addresses the following research questions:

1. Is there a higher frequency of passive voice verb phrases in children's literature than in child directed speech?
2. Are there any differences in the type of passive voice found in children's literature and child directed speech?
3. Does the type of passive voice in input vary by the age of the child it is directed towards?

Background Information:

Currently, passive voice acquisition is not well understood, and research studies of passive voice acquisition conflict on the mechanism and timeline of passive voice acquisition. In this paper, acquisition will refer to the process of learning the implicit, abstract knowledge of the passive voice syntactic and morphological structure.

Mechanisms underlying passive acquisition

There are four main accounts for the mechanism of passive voice acquisition. The first account, as previously described, is the usage based account, in which researchers argue that exposure to particular syntactic constructions drives the acquisition of syntax through statistical learning (Tomasello, 2000; Lieven & Tomasello, 2008). The remaining three accounts, discussed below, are the Maturation Hypothesis, cue based account, and incremental processing account.

Some researchers argue that the mind uses a syntactic framework, which may be either innate or acquired through cognitive maturation, to produce passive voice (Borer & Wexler, 1987; Crain, Thornton, and Murasugi, 2009; Sinclair, Sinclair, & De Marcellus, 1971). The second account of late passive voice acquisition is Borer and Wexler's (1987) Maturation Hypothesis. Demuth (1989) concisely describes the Maturation Hypothesis, saying it claims, "the timing and nature of acquisition depend primarily on the maturation of grammatical principles rather than on the frequency of exposure to the construction" (pp. 57). According to this hypothesis, late acquisition of passive voice is attributed to the complexity of the structure, rather than exposure. Even if children had a large number of experiences with passive voice, according to the Maturation Hypothesis, acquisition

would not occur until certain cognitive abilities have matured.

A third explanation for the late acquisition of passive voice is a cue based account, such as Bates and MacWhinney's (1987, 1989) Competition Model. The cue based account argues that children derive meaning from utterances through utilizing linguistic and non-linguistic cues. The child predicts theta role assignment as an utterance is spoken, and determines the proportion of times that prediction is correct, which provides the reliability of the prediction. In English, the first noun phrase (NP) of the utterance is typically the agent, making it a reliable cue. In passive sentences, however, the first noun phrase is the patient or experiencer, in which case the first NP is not the agent. Additional cues that might cue a passive interpretation of a sentence, such as passive-participle verb morphology and the preposition *by*, are also unreliable. The –*en*/*ed* verb suffix associated with passive voice often indicates past tense (e.g. The boy walk*ed*), and *by,* which is frequently omitted from passives, can also indicate locations (e.g. The farmer walked *by* the barn), temporal relationships (e.g. She had to finish *by* 5:30 p.m.), or creator relationships (e.g. The book *by* my favorite author). Thus, syntactic cues that suggest a passive interpretation of an utterance are unreliable.

The fourth and final account discussed in this paper is the incremental processing account, which, like the cue based account, proposes that children use probabilistic constraints to interpret meaning, but that these constraints unravel online as utterances are heard (Huang, Zheng, Meng, & Snedeker, 2013; Hurewitz, Brown-Schmidt, Thorpe, Gleitman, & Trueswell, 2000; MacDonald, Pearlmutter, & Seidenberg, 1994; Trueswell, Sekerina, Hill, and Logrip, 1999; Trueswell & Tanenhaus, 1994; Trueswell and

Gletiman, 2004; Weighall, 2007). When listening to an utterance, adults recruit contextual, syntactic, morphological, lexical, and semantic knowledge in order to interpret the sentence as it was intended by the speaker. Trueswell et al. (1999) examined children's and adults' performance interpreting garden path sentences, which are temporarily syntactically ambiguous. For instance, in the sentence "Put the frog on the napkin in the box," the first prepositional phrase may be incorrectly interpreted as the location of the verb "put." Trueswell et al. (1999) found that 5-year-olds initially interpreted that sentence incorrectly, and did not revise their interpretations upon hearing the rest of the sentence. Adults in the study, however, did revise their interpretations. Choi and Trueswell (2010) attribute children's failure to revise initial misinterpretations to a lack of cognitive control and inhibition.

Similarly to the cue-based account, listeners hear the first noun phrase in a passive and assign it to the role of the agent, because that is most common in their experience. However, children fail to revise that interpretation as they hear more of the utterance and receive information that it is in fact a passive. According to the incremental processing hypothesis, the late acquisition of passive voice is attributed to failure to revise initial misinterpretations of utterances.

Timeline of passive acquisition

In addition to conflicting evidence on the mechanism of acquisition, research on the timeline of passive voice acquisition is not clear. Harris and Flora (1982) found that English speaking children do not produce full passives until 4–5 years old, but sometimes produce short passives earlier. Across prior research, children under the age of nine

perform poorly on some passive voice tasks, but well on others, and this performance may vary by the type of passive construction. According to Horgan (1978), short passives are more frequent in child language than full passives. Horgan (1978) explains that this situation is counterintuitive, because on some syntactic theories, short passives are grammatically more complex than full passives because they require an additional transformation (omission of an agentive *by*-phrase). However, as Bever (1970) explains, short passives may be more grammatically complex than full passives, but are less psychologically complex because they include fewer constituents. Through a truth-value judgment task, Fox and Grodzinsky (1998) found support for the relative ease of short passives. They looked at 3- to 5-year-old children's performance on the comprehension of short and full passives, using nonactional and actional verbs. An actional verb is a verb that conveys some action, as opposed to a nonactional verb, which has a stative interpretation. The authors found that all children performed perfectly for actional *be* and *get* passives. On the nonactional passives all children performed with 100% accuracy when the *by* phrase was omitted (e.g. *The girl was seen*), but poorly (as a group, 40.6% correct) when the *by* phrase was present. In other words, the children demonstrated the most difficulty in passive comprehension with nonactional full passives (e.g. *The girl was seen by the gorilla*). However, a more recent study (Kirby, 2010) found that 4- and 5-year old children performed best on full, primarily nonactional passives, which is essentially the opposite pattern of Fox and Grodzinsky (1998) found, suggesting that the specific properties of the passive sentences being tested may play an important role in children's performance on passive voice tasks.

Studies of how children learn to produce passives with nonsense verbs may shed light on the development of passive voice for individual verbs. Study 1 of Tomasello et al. (1998) taught two groups of children to produce a *get*-passive with the nonword *meek* (e.g. *The car is going to get meeked*) in a play context. The two age groups studied were 3;0 (*n=12,* mean 36 months) and 3;6 (*n*=12, mean 41.3 months). The authors found that the 3;6-year-old group produced a full passive after an average of 6.0 adult full passives, and all twelve children produced a full passive. However, the 3;0-year-old group did not produce a full passive until after an average of 22.2 adult full passives, and only eight of twelve 3;0-year-olds produced a full passive. The authors found when analyzing the types of utterances children made leading up to the production of a full passive, that children of both age groups first named the agent and patient, then a short phrase containing the verb, and finally the full passive. Study 2 of the same paper (Tomasello et al., 1998), found that children ages 36–38 months learn to produce the types of passive that they hear from adults. In one group of ten children, who heard only full passives during a discourse task, five of the children produced full passives, and four produced short passives. In the second group, who heard only short passives and agent/patient questions (e.g. "Who got meeked?") during the same task, two children produced full passives, and eight produced short passives. The five children who produced full passives in the first group produced significantly more full passives per child than the two children in the second group who produced full passives. The children in the first group who produced a full passive did so after an average of 16.2 adult models. Overall, Tomasello et al. (1998) indicates that children as young as 3;0 can learn to produce passive voice with a novel word after

hearing models from adult input, but that around age 3;6, children need fewer models of passive voice before they learn to produce it with a new verb.

Tomasello et al.'s (1998) methodology of teaching young children to produce passive structures with a nonword raises the question of how children's earliest knowledge of passives is stored. Before the age of three, many researchers believe young children's early language consists of item-based utterances, rather than an abstract grammar or framework that can be used creatively (Cameron-Faulkner, Lieven, & Tomasello, 2003; Tomasello, 2000). This is consistent with usage-based accounts, because exposure drives grammatical knowledge.

After age three, however, it seems that children have acquired various verb frameworks that they can then use creatively by placing nominals in assigned spots. A number of studies have demonstrated that by the age of three years children have acquired an abstract representation of passive voice constituent structure beyond memorized, item based passives (Huttenlocher, Vasilyeva, and Shimpi, 2004; Shimpi, Gamez, Huttenlocher, and Vasilyeva, 2007; Bencini and Valian, 2008). For example, Huttenlocher et al. (2004) showed significant priming effects in four- and five-year-old children for passive voice for a variety of verbs, meaning that when input was adjusted to include passive voice, children were more likely to respond using passive voice. This occurred not just when the children were not simply repeating verbatim what the examiner said, but even when children were introducing new verbs to the task. If children did not have some implicit knowledge of passive structures, they would not have been able to produce passive voice for a range of lexical items that they likely have not heard

used in passive constructions. Overall, these results indicate some that English-speaking children have some implicit knowledge of passive voice constituent structure at age three.

If children have some abstract conceptualization of passive voice constituent structure at age three, but still do not demonstrate the ability to understand or produce passive voice, some other factor aside from constituent structure knowledge may be preventing children's full utilization of passive voice. One candidate that may pose challenges for passive acquisition may be learning how to reverse theta roles (Messenger, Branigan, and McLean, 2012). Whereas in typical active subject-verb-object (SVO) sentences, the agent proceeds the patient, the agent follows the patient in passive sentences within a prepositional phrase. The discrepancy between acquisition of passive voice structure and passive voice thematic roles can be explained if children learn passive voice in a series of stages over a period of years. Messenger et al. (2012) propose acquisition stages, with constituent structure being acquired around three years of age, and thematic role reversal being acquired a few years later, at roughly age seven. According to their study, learning to reverse theta roles in passive voice in addition to acquiring the passive voice constituent structure may account for adult-like competence of passive voice not being reached until age nine.

In another study, Messenger, Branigan, and McLean (2011) found that both short passives and full passives rely on the same abstract constituent structure representation, which children acquire in the preschool years. If underlying representations are the same, children should acquire both short and full passives at the same time. Despite both forms

of the passive relying on the same constituent structure, children's competence in short and full passives are not equal. However, research studies such as Fox and Grodzinski (1998) and Kirby (2010), as previously described, provide conflicting evidence for which types of passives pose the most difficulty to children. Messenger et al.'s later (2012) study on stages of passive acquisition may support Fox and Grodzinski's (1998) and Tomasello et al.'s (1998) findings that young children become competent with short passives before full passives. Children may have acquired the abstract constituent structure representation of both forms in the preschool years, but not yet the reversal of agent and patient thematic roles. Only full passives contain both agent and patient, which may explain children's poorer performance in interpreting full passives.

Cross-linguistic studies may provide clues as to how cognitive maturation and language exposure influence the passive voice acquisition process. Demuth (1989) and Allen and Crago (1996) demonstrate that children learning Sesotho and Inuktitut, respectively, produce each type of passive used in their language much earlier than English speaking children. For instance, Demuth (1989) shows that children who speak Sesotho creatively produce verbal passives by the age of 2;8 years (years;months), and that Sesotho verbal passives can be derived from active voice using the same A-chain process that English arguably uses. Similarly, Allen and Crago (1996) showed that children ages 2;0–3;6 produce both short and full passives with action and experiential verbs, indicating no semantic or construction-based restrictions in their use of passives. This contrasts with findings that English speaking children do not begin to produce full passives until age 4–5. If cognitive maturation were necessary to facilitate the acquisition

of passive, cross-linguistically children would acquire passive voice at the same developmental stage. In both Sesotho and Inuktitut, the earlier acquisition of passive voice may be accounted for by frequency of input, as both Demuth (1989) and Allen and Crago (1996) demonstrate higher frequencies of passive voice in Sesotho and Inuktitut adult-language than English adult-language. Cross-linguistic evidence indicates that delayed acquisition of passive voice is not universal, suggesting that English speaking children as young as 2;0 should also have the cognitive resources to understand and produce passive voice and that frequency of exposure may be the most important factor in determining age of acquisition.

Yet another factor to consider is children's real-time retrieval of passive voice structures. Even if children have successfully acquired passive voice, some research suggests that children's ability to use that knowledge varies according to the quantity and quality of linguistic input. It has been established that individual variation in language exposure is related to the child's environment, affected by variables such as socioeconomic status (SES), home literacy environment, sociocultural background, and ethnicity (Aarts et al., 2016; Aarts et al., 2011; Dickinson & Tabors, 2001; Laghzaoui, 2011; Rowe, 2012; Scheele, 2010). Children from low-SES families likely hear fewer passive voice constructions than children from middle-class backgrounds because they hear fewer words overall (Hart & Risley, 1995). Aarts et al. (2011) found that academic level of input during a picture description activity was related to SES, even moreso than to maternal literacy level. This indicates that in addition to hearing fewer passive constructions because less overall input than middle-class children, children from low-

SES families likely hear a smaller proportion of passive voice constructions relative to middle-class children. The question remains, then, how this lack of input affects aspects of acquisition, such as the mechanism, rate, and retrieval. One study found effects of SES on the real-time processing of passive voice (Huang, Leech, & Rowe, 2016). While all children in their study of 3- to 7- year olds had acquired knowledge of passive voice, children from low SES backgrounds did not access that knowledge as quickly as children from middle-class families during comprehension tasks.

Pruitt, Oetting, and Hegarty (2011) examined the rate at which African American English (AAE)—speaking children from low-SES backgrounds marked past-participles, meaning how they used morphosyntactic markers such as "–ed" to verbs to create the passive participle. The authors found that AAE-speaking children marked participles significantly less frequently than age-matched middle-class peers, taking into consideration dialectal differences that may affect the structure of passive participles. Pruitt et al. (2011) and Huang et al. (2016) indicate that children from low-SES backgrounds, who are assumed to come from impoverished language environments, do not have real-time processing access to passive voice knowledge and that they do not mark passive participles appropriately when producing passive voice. Together, these studies demonstrate that children who come from impoverished language backgrounds have more difficulty in learning passive voice than children from language-rich homes, indicating that input may play a vital role in the acquisition of passive voice.

Prior research suggests that English-speaking children acquire passive voice relatively late in the acquisition process, but the reason for this is not yet well understood.

While some studies suggest, as Borer & Wexley (1987), that children are slow to acquire passive voice due to some cognitive maturation that must precede it, later studies indicate that late acquisition of passives may be a result of infrequent exposure to passive voice in language input (Gordon & Chafetz, 1991). Cross-linguistic studies demonstrate that children learning Sesotho and Inuktitut, languages in which passive voice is used in CDS more frequently than in English, understand and produce passives much earlier than English speaking children (Allen & Crago, 1996; Demuth, 1989). Additionally, some English-speaking children, such as those from low-SES backgrounds, have more difficulty learning and using passive voice than others. Coupled with the cross-linguistic evidence, this indicates that quantity and quality of input plays an important role in the acquisition of passive voice.

Influence of Shared Book Reading on Language Acquisition

Children engage with their home language environment in a variety of ways, beyond simply hearing the language directed at them (CDS). Children hear language on the television, radio, telephone, Internet, video games and computer applications. Depending on the family structure, they might overhear their caregivers and siblings talk amongst each other or with other people (children or adults). Additionally, parents and caregivers interact with children in a variety of ways. They have conversations, give directions, engage in various forms of play with children, and read to children. Many research studies focus on the influence of shared book reading on language acquisition. Although no research that examines the influence of text specifically on passive voice acquisition currently exists, there are studies on the role of children's literature on other

aspects of language acquisition. The research generally demonstrates that exposure to text positively influences certain aspects of language production. For instance, text exposure and joint attention required for shared book reading have been shown to expand children's vocabularies (Farrant and Zubrick, 2011; Suggate, Lenhard, Neudecker, and Schneider, 2013). Because text exposure has been shown to facilitate some aspects of language acquisition, it may foster acquisition of passive voice structure.

Furthermore, some research has demonstrated that text exposure facilitates rate and variety of complex sentences in children's language production. One such study is Montag and MacDonald (2015). They found that in 8- and 12-year-old children and adults, text exposure predicted higher rates of complex sentence production. Passive voice was included in this study within relative clauses. The researchers found that the older children and the children with more text exposure produced higher rates of passive voice, but only when the patient of the sentence was animate. This study, then, corroborates research such as Messenger et al. (2009) which found that adult-like competence of passive voice is not reached until age nine, but also add a new idea: that text exposure may accelerate the acquisition of passive voice.

It is important to consider the entirety of the shared book-reading experience between caregivers and children. Numerous studies have suggested that the caregiver input produced during the shared book-reading activity, excluding the text, is of higher grammatical complexity and contains more features of academic language (Aarts et al., 2011; Hoff-Ginsberg, 1991; Snow, Arlmann-Rupp, Hassing, Jobse, Joosten, & Vorster, 1976; Weizman & Snow, 2001) than maternal input in other activities. Aarts et al. (2011)

found support that maternal CDS in the context of shared book-reading contained a higher frequency of academic language features than maternal CDS in the context of a picture description activity. Furthermore, the academic language found in CDS may support acquisition of early features of academic language (Aarts et al., 2016).

Van Kleeck, Gillam, Hamilton, and McGrath (1997) analyzed the CDS input, excluding the printed text, in the shared book reading context in terms of levels of abstractions, or, in other words, how the parents' language was related to the book reading context or how removed the language was from the setting. Researchers found that parental use of both highly abstracted language and non-abstract (i.e. concrete) language was correlated with children's later knowledge abstract language. The researchers suggest that the input at lower levels of abstraction (e.g. parents pointing to a picture and asking, "What is this?") may have created an environment where the children felt a certain amount of success at having mastered some skills. Then, that success supported the children when parents introduced more abstract language (e.g. parents asking about characters' motivations) to the shared book reading experience. The results of Van Kleeck et al.'s (1997) study indicate that the abstract language parents use during a shared book reading activity is positively correlated with later abstract language skills. Along with Aarts et al.'s (2011) study, these results indicate that CDS in the context of book reading may provide enriched linguistic input. However, the CDS remains unlikely to exceed the complexity of the book text itself.

Methodology:

Background research demonstrates that passive voice acquisition poses a challenge for English-speaking children, and that children's lack of experience with passive voice may play a role. This study seeks to expand upon previous research, first by replicating the results of Gordon and Chafetz (1990), then by documenting the quantity and quality of passive voice in children's literature, thus adding data from another potential source of passive voice input. Finally, this study will compare the frequency of passive voice constructions in CDS and children's literature, as well as between age groups that input is directed two.

The design for this study was influenced in part by Cameron-Faulkner and Noble (2013), which compared frequency of canonical and non-canonical syntactic constructions in children's literature to CDS, and found a higher frequency of canonical sentence structures in books than in CDS, suggesting that passive voice may be more frequent in children's books than in CDS. However, the authors did not code specifically for passive voice. While the current study will only look at passive voice constructions, it will do so in a manner similar to Cameron-Faulkner and Noble (2013), coding verb types and comparing them between children's literature and CDS.

Twenty children's books were chosen on November 2, 2015 from Amazon.com. Initially, the books were to be chosen from the age categories of Birth–2 years and 3–5 years. However, an initial perusal of books targeted to children Birth–2 years revealed no instances of passive voice. Thus, the age categories were changed to ages 3–5 and 6–8 in order to ensure representation of passive voice. Ten books were chosen from the age

category 3–5 and ten books were chosen from age category 6–8. Books were sorted on Amazon.com by "Featured" books in each age group. The first ten books listed from each age group were selected, with a few exceptions. Books were excluded if: (1) another book by the same author was already chosen, in order to eliminate any effect of individual writing style (2) the book was directed towards adults (e.g. a book about parenting) (3) the book contained a seasonal or religious theme, in order to eliminate books that are read by a single group, or (4) the book was not in a narrative format (e.g. book of jokes). In cases where the book appeared in the top ten of both age groups, it was placed in the age group in which it was higher ranked in Amazon's featured books. One book in the 6–8 age group was initially chosen, but was later found to not be in a narrative format. *Our Great Big Backyard* was chosen as a replacement on May 19, 2016 using the same search method as the other books.

Passive voice data of caregiver speech from the Child Language Data Exchange System (CHILDES) database was then selected for comparison (MacWhinney, 2007). All samples were chosen from the North American English subset of the database, and were selected if: (1) sample was a naturalistic caregiver-child interaction, (2) only one child was present in the sample, (3) the child was between the ages of 3;0 and 8;11, (4) no more than three samples from the same study may be selected, and (5) the sample must have a written transcription available. The initial intention was to choose 10 samples representing each age group, but an investigation of the database did not yield enough samples for the older age group that met selection criteria. In total, 10 samples of caregiver-child dyads ages 3;0–5;11, and 2 samples of caregiver-child dyads ages 6;0–

8;11 were chosen.

Each book and CDS sample was coded in a Microsoft Excel spreadsheet. Books were transcribed verbatim, with each verb phrase (VP) on a separate line. CHILDES transcripts were copied over to the Excel spreadsheet and separated by VP. VPs were assigned a code according to their inflectional properties. When deciding on a code, only the main lexical verb of the phrase was considered. Modal verbs, helping verbs, and a selection of verbs that act as modals (e.g. "kept" in *The cat kept jumping onto the table*) were not coded. Adjectival passives and short verbal passives, which are morphologically identical, were distinguished using criteria from Gordon and Chafetz (1990) and Bowey (1982). First, if the VP was interpreted as having a nonactional, *stative,* interpretation, it was considered and adjectival passive, and if it represented an actional, or *process*, interpretation, it was considered a short verbal passive (Gordon and Chafetz, 1990). Then, if the interpretation of the VP remained unclear, Bowey's (1982) strategy of inserting the adverb "very" before the participle was used. Past participles in short verbal passives cannot be modified using "very" (e.g. **The cat was very fed*), but past participles in adjectival passives may be modified using "very" (e.g. *The cat was very tired*). Table 1 summarizes the codes used.

Table 1. VP Codes.

ACT	Active
AdjP	Adjectival Passive
COP	Copula
GetP-F	Full Get-Passive
GetP-S	Short Get-Passive
PAS-F	Full Verbal Passive
PAS-S	Short Verbal Passive

Because the selection of books includes a range of lengths, books in a chapter book format were not coded in their entirety. In order to determine the number of VPs to analyze, the average number of VPs in the selection of picture books was calculated. Based on that number, only the first 110 clauses of each chapter book were coded and analyzed. The same number was chosen for the caregiver speech samples from CHILDES.

Data Analysis

In total, 3,486 VPs were transcribed and coded, 2,161 of which were from children's literature and 1,325 of which were from CDS samples. The disparity in number of VPs from each source type is due to having ten books, but only two CDS samples in the 6–8 age group. The mean number of VPs coded per book was 108.05, and the mean number of VPs per CDS sample was 110.42. Table 2 summarizes the number of VPs coded for each group of input.

Table 2. Number of VPs coded for each data type.

Source Type	Age Group	Number of VPs
Book		
	3–5	1073
	6–8	1088
CDS		
	3–5	1104
	6–8	221

A first-year graduate student in the M.S. in Speech-Language Pathology program at Boston University performed reliability coding on approximately 30% of book data

(698 VPs) and 60% of CDS data (751 VPs). There were 47 discrepancies between reliability coding and original coding for book data, and 47 discrepancies for CDS data. Across data, there was 97.3% interrater agreement. Disagreement was resolved by discussion among the two coders, and in 82 of the 94 total disagreements, initial discussion resulted in using the original coder's assigned code. In three cases, the reliability coder's assigned code was used. In 9 instances, discussion did not resolve disagreement, and an Assistant Professor of Linguistics was consulted to resolve those instances. The following tables demonstrate the total numbers of each type and construction found, and the mean number of constructions per book/speech sample.

Table 3. Total number of passive structures found in each source type.

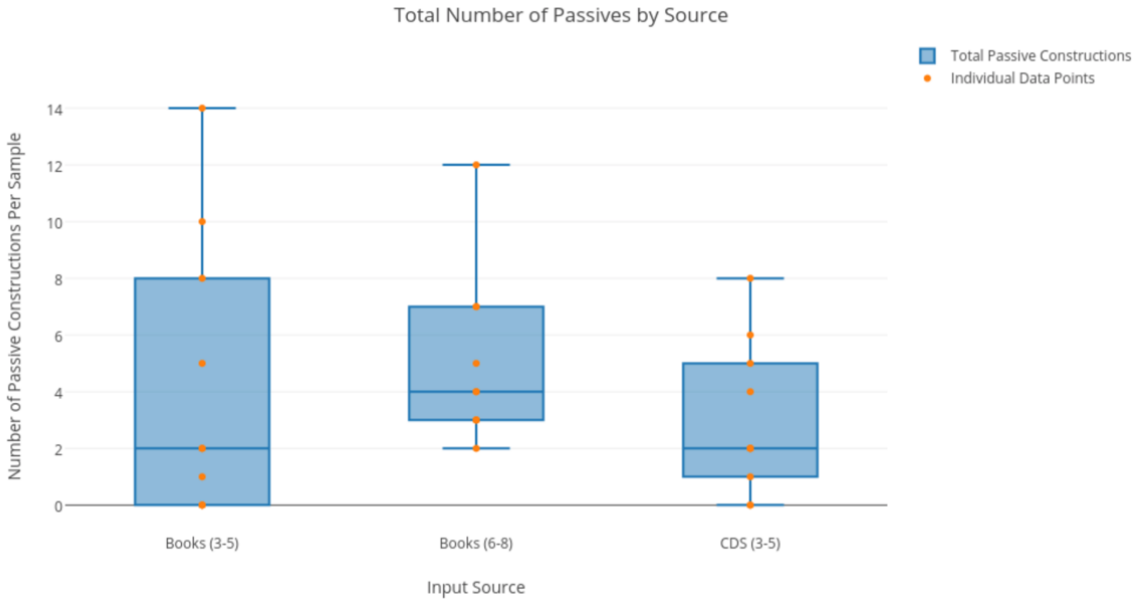
Source	Full Be Passives	Short Be Passives	Short Get Passives	Total Verbal Passives	Adjectival Passives	Total Passives
Books	3	36	13	52	40	92
CDS	0	17	9	26	9	35

Table 4. Number of passive structures found in data, separated by age.

Source	Full Be Passives	Short Be Passives	Short Get Passives	Total Verbal Passives	Adjectival Passives	Total Passives
Books Age 3–5 (n = 10)	1	17	6	24	18	42
Books Age 6–8 (n = 10)	2	19	7	28	22	50
CDS Age 3–5 (n = 10)	0	16	7	23	7	30
CDS Age 6–8 (n = 2)	0	1	2	3	2	5

The following box plot shows the total number of passives (both verbal and adjectival) in each modality. Each plot shows the mean, standard error, and specific data points of the 10 language samples for each modality. The 6–8 age group for child directed speech was excluded because only two samples were coded.

Figure 1. The total number of passives found in each sample.



Research Question 1: Frequency of Passives in Children's Literature and CDS

In addressing research question (1), comparing the frequency of passive voice constructions between children's literature and CDS, this study must first replicate results from studies such as Gordon and Chafetz (1990), which indicate there are few instances of passive constructions in CDS. Verbal and adjectival passives combined account for 2.64% of CDS data, which is more than the 0.3% found in Gordon and Chafetz (1990). While this study found more passives in CDS, Gordon and Chafetz's (1990) criteria for being coded as passive was somewhat different. The current study counted a VP as passive if it met the syntactic and morphological criteria of a passive, whereas Gordon and Chafetz (1990) excluded utterances if the actionality of the verb was ambiguous, such as "I'm tired," instead calling them pseudo-passives. In this study, "I'm tired" would be considered an adjectival passive because it has a stative interpretation. Additionally, the authors excluded stereotyped utterances such as "it's called *X*," which made up a large number of short passives in the current study. Therefore, this study likely included constructions that Gordon and Chafetz (1990) did not, which explain. Regardless, this study corroborates Gordon and Chafetz (1990)'s findings that there are few instances of passive voice in CDS, finding that just 2.64% of VPs in CDS were passive.

Next, to examine these frequencies statistically, a one-way MANOVA with the frequency of all passive voice constructions as dependent variable and the input modality as the dependent variable, was conducted to compare frequencies of passive voice in CDS and in books. There was not a significant effect of source type on passive voice frequency [$F(1,2)=29$, $p=0.3808$]. This indicates no clear relationship between the type of

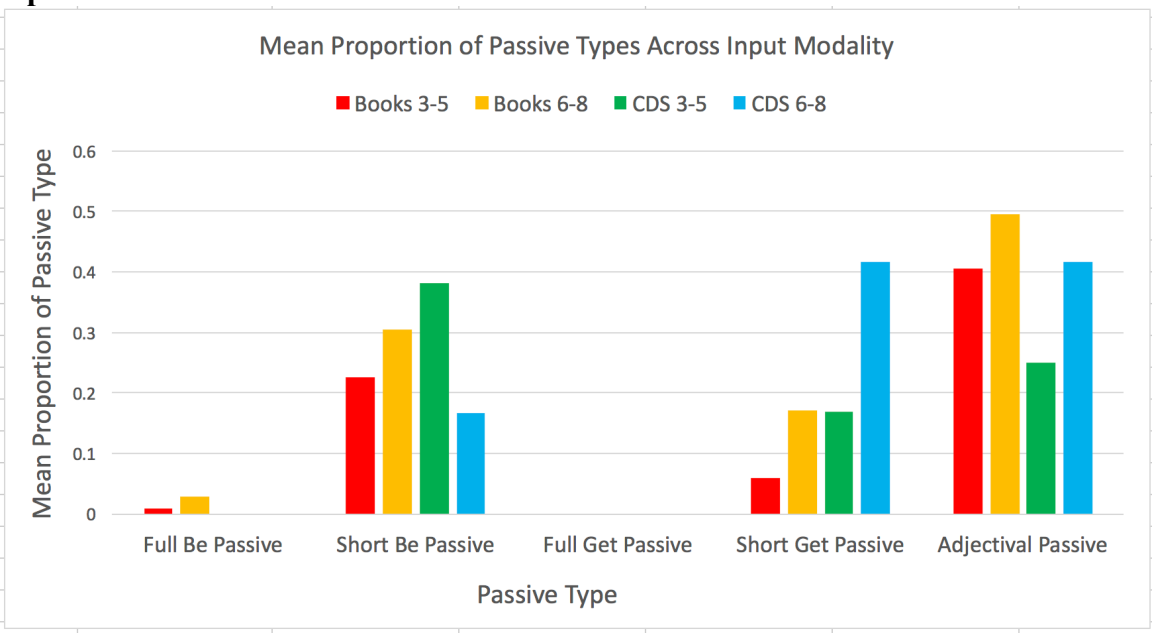
linguistic input and the frequency of passive voice. The answer to question #1, therefore, is that there is not a higher proportion of passive voice in children's books than in CDS.

A second MANOVA with verbal passives (i.e. excluding adjectival passives) as the dependent variable and input modality as the independent variable indicated no relationship of input source and frequency of verbal passives [$F(1,2)=29$, $p=0.9126$]. This means that verbal passives are no more frequent in children's books than in CDS. This further supports the finding that passives are not more frequent in children's books than in CDS.

Research Question 2: Types of Passives Across Input Modality

A MANOVA with each type of passive structure as a dependent variable, and input modality as independent variable, revealed no significant difference [$F(1,4)=27$, $p=0.2596$]. This indicates, addressing question (2), that there are no significant differences in the distribution of passive voice types between children's literature and child directed speech. Across modalities, adjectival passives occurred more frequently than any other type of passive. No full verbal passives occurred in CDS, and no full *get* passives occurred anywhere in the data. Figure 2 demonstrates the mean proportion of each type of passive to the number of actives in each input type.

Figure 2. Mean proportion of passive structures to active voice, separated by type of input.



Research Question 3: Passive Voice Input and Age

Research question (3) asks if the type of passive voice in child directed input varies with the age of the child. A MANOVA with each passive type as a dependent variable and the child's age group (3–5 and 6–8 years old) as the independent variable revealed no significant findings. This means that the types of passive voice in children's books marketed towards 3–5 year olds and books marketed towards 6–8 year olds are similar, although the mean proportions are slightly higher, but not significantly, for the 6–8 age group. Compared to the book data, it appears as if the CDS data has fewer adjectival passives proportionate to the active VPs, although this was not significant. In both age groups, adjectival passives are the most common, followed by short 'be' passives, short 'get' passives, and finally full 'be' passives. Notably, neither age group is exposed to full 'get' passives in any of the data. This indicates that children hear the same

distribution of passive types throughout the ages of 3–8, although one might expect the frequency of passives in input to increase as the child's passive voice comprehension and production improves.

Discussion

This study sought to explore the differences in frequency and type of passive voice constructions between child directed speech and children's literature. Results of the study that there is not a significant difference in the overall frequency of passive voice in the CDS and book conditions, both when all passives were considered in the MANOVA and only verbal passives were considered. This finding conflicts with commonly held beliefs that children's literature provides an enriched source of language input, with more complex grammar than CDS. Although this may be true for other sentence types (Cameron-Faulkner and Noble, 2013), these results indicate that children's literature is not a more robust source of passive voice input than CDS. This is an important finding because it further indicates that children, even those children who are frequently exposed to children's books, are hearing few instances of passive voice in their language environment.

Additionally, across both book and CDS modalities, no significant difference was found in the passive voice input to age groups 3–5 and 6–8, which indicates that the frequency of passive voice within child directed language does not change throughout these ages. As children's comprehension and production of passive voice improves during these years, it might be expected that caregivers utilize more frequent passive

constructions. However, these data do not support that idea, indicating instead that children are exposed to a similarly low frequency of passives throughout the ages 3–8.

Additionally, the data reveal no significant difference in the distribution of passive construction types between children's literature and CDS. This indicates that each type of passive voice appears with similar frequency in children's literature as in CDS. In both conditions, adjectival passives are the most frequent, followed by short 'be' passives, short 'get' passives, and finally, full 'be' passives. One notable difference between the two modalities, however, is that no full 'be' passives were found in the CDS condition. Only 3 full 'be' passives were found in children's literature, but it is interesting that in 1,325 VPs of CDS, none of them were the full, canonical passive structure. The overall finding that passive types were not significantly different across input modality indicates that passive voice in children's literature and passive voice in CDS are similar. Not only are children receiving similar frequencies of passive voice in children's literature as in CDS, but they are also receiving similar distributions of different passive construction types in both modalities, further supporting the finding that children's books are not a more robust source of passive voice than CDS.

The results from the statistical analyses demonstrate that books are not as rich of a source of passive voice might have been expected based on previous findings of academic language in children's books (Cameron-Faulkner and Noble, 2013). When considering how these findings might fit in to the larger picture of passive voice acquisition, the results of this study support the usage-based theory in that instances of passive voice are infrequent in child directed input. However, the results do not preclude

the Maturation Hypothesis, cue-based account, or incremental processing account, as it is uncertain how the frequency of passive input influences acquisition. Within the cue based account of passive acquisition, these results support the unreliable nature of a *by*-phrase as a syntactic cue, as only three of 127 passives found included a *by*-phrase, and all of those were in children's literature. This study adds to the body of literature that demonstrates few instances of passive voice input, but the mechanism of passive voice acquisition remains a mystery.

Although passive voice is similarly low in frequency in children's literature as in CDS, this does not mean shared book reading is unimportant in passive voice acquisition. There are several reasons why shared book reading may support acquisition of specific syntactic structures, including passive voice. First, shared book reading requires sustained joint attention, which has been found to support language acquisition (Farrant and Zubrick, 2011). Second, studies such as Aarts et al. (2011) and Van Kleeck et al. (1997) demonstrate that the CDS, excluding book text, that occurs within the context of caregiver-child book reading is of higher complexity than CDS in other settings. Future studies may explore the prevalence specifically of passive voice in CDS within a book-reading activity. Third, books can be read multiple times. This gives the child multiple opportunities for the child to attend to the language, and may help reinforce passive interpretations of passive constructions. Fourth and finally, although analyses did not reveal significant differences in the syntactic types of passive voice, there may be subtle differences in the ways passive is utilized in CDS and children's literature.

Several language samples stood out in terms of how passive voiced was used. The most notable instance was the book “Oh, The Places You’ll Go!” by Dr. Seuss, in which the author plays with passive voice, as follows:

You will come to a place
Where the streets are not marked.
Some windows are lighted.
But mostly they’re darked.

In coding for this study, “marked,” “lighted,” and “darked,” were all coded as short verbal passives, as they all have a process interpretation and the morphosyntactic structure of passive voice, although the author chose to use non-canonical forms of the passive participles for “lighted” and “darked.” This passive play may draw the child’s attention to the grammatical form and meaning, and might encourage caregivers to provide explicit instruction of why these passive participles are unexpected. In that way, books may use literary strategies, such as
rhyming and poetry, that draw children’s attention to certain syntactic structures.

Another exceptional language sample was from a CDS sample named “nchi0439.” This was a naturalistic language sample in which a mother and her son (age 3;3) were playing. They were having a tea party, but then transitioned into playing with a ball. During this, the mother used seven short verbal passives in a small period of time, all using the same verb. The mother’s utterances are as follows:

M: Soccer ball. That's right.
M: Sit back.
M: Roll it.
M: Can you roll it back to me?
M: What is this called?
M: Spin
M: What's this called?
M: Bouncing.
M: What's this called?
M: Toss.
M: Me tossing it?
M: And this is called
M: What's this called?
M: Throwing.
M: And what's this called?
M: When I throw you the ball you
M: What is that called?
M: I caught it.
M: Can you catch it?

This one excerpt accounts for 7 of the 16 short verbal "be" passives found in all collected CDS data to children ages 3–5. Asking for labels is a typical parent-child interaction, and is an activity in which the child might be exposed to auditory bombardment of the passive. The auditory bombardment in this sample uses the same verb, "to call". The repeated exposure to the same form might facilitate learning of a single passivized verb.

Limitations and Future Directions:

This study examined a limited sample of the language children are exposed to in their environment, and found few passive constructions relative to their active counterparts. It is impossible to speculate what this says about the mechanism of passive acquisition, but it does support findings that children have few experiences with passive constructions. Future studies should replicate these findings and document passive voice type and frequency in other sources of input. Notably, children are exposed to language

beyond children's books and CDS. Further research should examine the syntax of caregivers' non-textual discussion during shared book reading, as research indicates it may provide enriched linguistic input (Van Kleeck et al., 1997). Additional sources of input may include overheard language from adults, siblings, teachers, and other forms of media such as TV and radio. Furthermore, children are likely exposed to children's literature beyond the superficial age category determined by publishers. Parents may read books directed towards older ages to their young children, or children may continue enjoying books that are marketed for younger ages. In order to more completely understand how exposure to passive voice influences the mechanism and timeline of acquisition, each of these input sources must be considered.

The findings of this study might raise the question of whether passive voice should be included in the umbrella of academic language. Anecdotally, it is a commonly held belief that teachers in middle- and high-schools discourage the use of passive voice in school reports and papers, encouraging students to use active voice instead. Although this is anecdotal evidence, further studies may explore how teachers talk about passive voice. Additionally, a future study might examine the frequency and distribution of passive voice in professional speaking and writing, such as political speeches and research studies, to expand upon our knowledge of passive voice use in various contexts. If research can further specify the adult use of passive voice across vocations, that may shed light on the lifespan development of passive, beyond the early academic years.

Finally, while this study does not reveal a significant difference between the frequency and types of passive voice in CDS and children's literature, subtle differences

may exist. For instance, Dr. Seuss, in a manner, played with non-canonical passive participles in his rhyming scheme. It would be interesting to see at what age children begin to show surprise when these non-canonical passive participles are read, indicating verb specific knowledge. It would also be interesting to explore how caregivers react to this passive play in a shared book-reading experience. It may be an opportunity for explicit passive instruction, or an opportunity to draw the child's attention to the text. In CDS, one sample included seven short verbal 'be' passives with the same verb in a short span of time. A type-token ratio of verbs used might reveal a difference in the semantic variability of passive voice in CDS and children's literature. While this study expanded current knowledge about the passive voice input children receive, more research is necessary to piece together why children do not acquire passive voice until the later stages of acquisition.

Conclusion:

This study explored the frequency and distribution of passive voice in children's literature as compared to passive voice in CDS. It found that passive voice is not more prevalent in children's books, despite common assumption that academic language is more frequent in books. However, that is not to say joint book reading does not play a role in learning passive voice. When caregivers read to their children, they tend to use language with academic language features in spontaneous comments aside from the book text, and joint attention has been shown to play an important role in language acquisition. Research conflicts on exactly how English speaking children acquire passive voice, and why they acquire it so late in the acquisition process. Further research is necessary to

expand on current knowledge of children's experience with passive voice, and to expand on what children specifically have difficulty with in acquiring passive voice. The results of this study indicate that passive voice input is not only lacking in CDS, but also in children's literature, questioning the commonly held belief that children's literature provides an enriched source of passive voice input.

APPENDIX

Table 5. Summary of Passives found in CDS and Children's Literature

Type	Age	Source	PAS-F	PAS-S	GetP-S	Total Verbal Passives	AdjP	Total Passives	Total VPs
Book	3–5	Giraffes Can't Dance	0	0	0	0	2	2	97
Book	3–5	If Animals Kissed Goodnight	0	2	0	2	0	2	58
Book	3–5	What Do You Do With an Idea?	0	0	0	0	0	0	104
Book	3–5	The Most Magnificent Thing	0	0	1	1	4	5	144
Book	3–5	Love You Forever	0	0	0	0	0	0	142
Book	3–5	Things You Will Be	0	0	0	0	0	0	48
Book	3–5	Oh, the Places You'll Go!	0	10	4	14	0	14	175
Book	3–5	Waiting is Not Easy	0	0	0	0	1	1	43
Book	3–5	The Day the Crayons Quit	1	3	1	5	5	10	157
Book	3–5	The Rabbit Who Wants to Fall Asleep	0	2	0	2	6	8	105
Book	6–8	The Giving Tree	0	0	0	0	3	3	141
Book	6–8	Dragons Love Tacos	0	0	2	2	1	3	80
Book	6–8	The Book With No Pictures	0	1	0	1	1	2	65
Book	6–8	What to Do When You Worry too Much	0	2	1	3	4	7	106
Book	6–8	Captain Underpants	1	9	0	10	2	12	107

Book	6–8	Wonder	1	0	2	3	2	5	109
Book	6–8	Diary of a Wimpy Kid	0	1	2	3	1	4	107
Book	6–8	Crenshaw	0	2	0	2	2	4	106
Book	6–8	Our Great Big Backyard	0	1	0	1	2	3	117
Book	6–8	Rosie Revere, Engineer	0	3	0	3	4	7	150
CDS	3–5	nchi0342	0	0	0	0	1	1	104
CDS	3–5	nchi0439	0	7	0	7	1	8	112
CDS	3–5	lsno11	0	2	3	5	1	6	116
CDS	3–5	tre20	0	0	0	0	0	0	111
CDS	3–5	nh54m-raidon	0	1	1	2	0	2	111
CDS	3–5	nh48m-jobey	0	3	1	4	1	5	109
CDS	3–5	nh54m-cosmo	0	0	0	0	0	0	110
CDS	3–5	andy	0	1	0	1	1	2	110
CDS	3–5	david	0	0	2	2	2	4	110
CDS	3–5	louise	0	2	0	2	0	2	111
CDS	6–8	sandra	0	0	1	1	1	2	110
CDS	6–8	bramt5	0	1	1	2	1	3	111

Table 6. Mean number of passive structures found in each source type.

Source	Full Be Passives	Short Be Passives	Short Get Passives	Total Verbal Passives	Adjectival Passives	Total Passives
Books (*n* = 20)	0.15	1.8	0.65	2.6	2	4.6
CDS (*n* = 12)	0	1.42	0.75	2.17	0.75	2.92

Table 7. Mean number of passive types found in each source type.

Source	Full Be Passives	Short Be Passives	Short Get Passives	Total Verbal Passives	Adjectival Passives	Total Passives
Books Age 3–5 (n = 10)	0.1	1.7	0.6	2.4	1.8	4.2
Books Age 6–8 (n = 10)	0.2	1.9	0.7	2.8	2.2	5.0
CDS Age 3–5 (n = 10)	0	1.6	0.7	2.3	0.7	3.0
CDS Age 6–8 (n = 2)	0	0.5	1	1.5	1	2.5

Table 8. Children's Books Selected from Amazon.com.

Age 3–5		***Age 6–8***	
Title	**Author**	**Title**	**Author**
Giraffes Can't Dance	Giles Andreae and Guy Parker-Rees	Captain Underpants and the Sensational Saga of Sir Stinks-A-Lot	Dave Pilkey
If Animals Kissed Good Night	Ann Whitford Paul	Wonder	R.J. Palacio
Waiting is Not Easy	Mo Willems	Diary of A Wimpy Kid: Old School	Jeff Kinney
The Rabbit Who Wants to Fall Asleep	Carl-Johan Forssén Ehrlin	Crenshaw	Katherine Applegate
The Most Magnificent Thing	Ashley Spires	The Book With No Pictures	B.J. Novak
What Do You Do With An Idea?	Kobi Yamada	Dragons Love Tacos	Adam Rubin
Oh, The Places You'll Go!	Dr. Seuss	The Giving Tree	Shel Silverstein
The Wonderful Things You Will Be	Emily Winfield Martin	What To Do When You Worry Too Much	Dawn Hueber
Love You Forever	Robert Munsch	Rosie Revere, Engineer	Andrea Beaty
The Day the Crayons Quit	Drew Daywalt	Our Great Big Backyard	Laura Bush and Jenna Bush Hager

Children's Books:

Andreae, G., and Parker-Rees, G. (1999). *Giraffes Can't Dance*. New York, NY: Scholastic, Inc.

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Bush, L., and Hager, J.B. (2016). *Our Great Big Backyard.* New York, NY: Harper.

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